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## SOUTHWESTERN POWER ADMINISTRATION

# UPDATE

OCTOBER/NOVEMBER/DECEMBER FY 2000 - FIRST QUARTER REPORT

## Y2K Drill “Unqualified Success”

by Jerry Martin

In accordance with direction from Department of Energy Headquarters, Southwestern Power Administration (Southwestern) conducted a Year 2000 drill from Wednesday, September 8 through Thursday, September 9, 1999 at its Springfield, Missouri Operations Center. Southwestern's drill simulated partial loss of its Supervisory Control and Data Acquisition (SCADA) system and the steps that would be taken to effect restoration. Part of the drill also involved working with the Corps of Engineers (Corps) to simulate an area-wide power loss and the steps involved with using the Corps' hydropower units to effect a blackstart. Southwestern's drill also interfaced with a similar drill conducted by the Southwest Power Pool (SPP).

The SPP drill began early Wednesday morning and continued until

noon Thursday. It was primarily a test of the communications systems of the operating entities such as Southwestern and SPP. Southwestern's recently-ordered satellite telephone was placed in operation and functioned well. All required voice reports to SPP were made on schedule and without any difficulties.



In simulating partial loss of its SCADA system, Southwestern called a selected group of its customers to rehearse required corrective actions. These customers cooperated fully and no difficulties were experienced. When Southwestern called certain power houses of the Corps to simulate a blackstart condition, the operators were well informed and cooperative as well. All in all, Southwestern's Y2K drill was an unqualified success. 💧

# The Virtues of Thinking and Planning Ahead

by Pauletta Johnson

When I was growing up, the importance of thinking and planning ahead was stressed in my family. Until I left home, it was constantly reinforced. The emphasis on thinking and planning ahead must have been a concern passed down from the family elders stemming from the primitive days. I can only imagine that thinking and planning ahead back in those days must have been key elements to survival.

Thinking and planning work together as a team. You almost can't do one without the other. You can do a lot of thinking, but if you don't plan those thoughts to achieve something, you may not produce the desired results.

In the world of procurement, thinking and planning ahead are the beginning of the entire acquisition cycle, which is known as "acquisition planning." This is the process Procurement goes through to integrate and coordinate efforts of all Southwestern's program personnel responsible for an acquisition.

The goal is to fulfill a specific need in the most timely manner and at a reasonable cost. The most difficult part of acquisition planning is meeting the requirements of the Federal Acquisition Regulations and at the same time trying to accommodate the customer (program personnel).

They don't always go hand-in-hand and can make the Contracting Officer's job challenging. No decision will please everyone. Acquisition planning in most cases can alleviate some of the distress.

Working together as a team in identifying the desired product or services, identifying funding resources, considering any previous acquisition history, becoming knowledgeable of what the commercial marketplace has to offer and finding ways to

promote competition and overcome barriers are all important in acquisition planning.

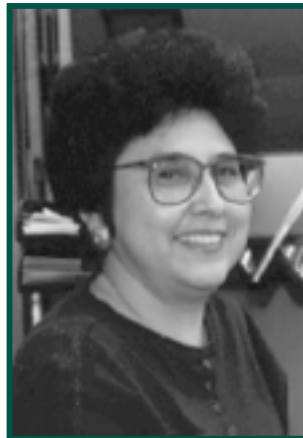
In recent years, the Government has been working to change procurement methods by buying commercial products or services to satisfy program requirements. This is a difficult adjustment to make when the procuring practice has previously been based on custom-tailored products.

"Market research" is a term used in the Government's quest to fit into the commercial market. It is a tool that assists in identifying commercial items and provides an understanding of the commercial marketplace for an acquisition.

Early emphasis on market research is part of the acquisition cycle and in most cases is the root of acquisition planning. It can be conducted either by the customer or by Procurement and requires complete documentation. This is important, as the Contracting Officer's decisions for the method of procurement may be based on the outcome of the market research and is subject to protest by an unhappy vendor.

Acquisition planning developed on well-documented market research can ensure the success of a contract. Based on my experience, when you do your research, think it through and develop a plan of action, the whole acquisition process from solicitation to administration of the contract goes smoothly most of the time.

The benefits reaped are good customer service, saving time and money, all of which are worthwhile and in sync with the agency's mission. So with the assistance and cooperation of the customer, let Procurement keep on doing it better for you. 💧



# A Century of Service

by Sharon King

Three of Southwestern's customers have been honored by the American Public Power Association (APPA) with their Century Award, presented to member public power utilities who have served their consumers and communities continuously for 100 years.

Proudly claiming centenarian status are APPA Members Higginsville, Missouri (a Century Club member since 1993), Lafayette, Louisiana (1997) and Carthage, Missouri (1998). There are currently 163 members of the Century Club, representing 31 states.



Not only do these communities share a hundred-year legacy of service; they also share a firm commitment to public power. Congratulations to these centenarians as they enter their second century of service to their customers. ♦

## Hydropower Conference

by Jake Gage

The latest Hydropower Conference was held August 3 and 4 in Little Rock, Arkansas. Approximately 50 representatives from the Corps of Engineers (Corps), Southwestern Power Administration (Southwestern), and the Southwestern Power Resources Association (SPRA) attended the Conference, hosted by the Little Rock District (LRD) of the Corps.

The first day's session was begun with a welcome from Colonel Thomas Holden, District Engineer,

LRD, who stated that the meeting was timely since Arkansas had recently experienced energy shortages and rolling blackouts in certain areas.

Southwestern Administrator Mike Deihl next emphasized the importance of the meeting and the accomplishments to date, which include: the development of the Memorandum of Agreement (MOA) for customer financing of certain Corps repair projects; better understanding among parties; sharing of maintenance responsibilities; focusing on issues from one meeting to another; and the removal of barriers to effective and efficient operations.

Ted Coombes, Executive Director of SPRA, then stated that the conferences are important for customers to voice to the Corps the relevance of Federal hydropower to them and to discuss other significant issues.

The remainder of the afternoon session included a series of staff reports and updates on a number of projects and issues. These included an update on the status of the MOA, Black Start, Y2K, electric utility restructuring, water supply reallocations and the Water Resources Development Act.

The second day of the conference began with customer information related to the changing electrical market. Rick Henley, Jonesboro City Water and Light, provided an example of the volatility of the market. On July 13, 1999 a block of energy cost about \$34,000; on July 29 and 30, the same block of energy cost about \$2.5 and \$2.6 million respectively.

Keith Hartner, Associated Electric Cooperative, Inc. (AECI) and John Stephens, City Utilities of Springfield stated that their systems had experienced similar high power costs during this period. These examples pointed out the critical necessity for maximum capacity availability during peak load periods.

Tom Plunkett, LRD, gave a slide presentation on the Dardanelle Major Rehabilitation project, showing removal, repair and replacement of turbine, generation and auxiliary equipment. The \$28 million project is scheduled for completion in July 2000.

The next meeting is tentatively scheduled for Kansas City in March or April 2000. In closing remarks Mike Deihl and Colonel William Throop, Corps Southwest District, reiterated their beliefs that the conferences provide valuable information in a format that encourages open participation. ♦

# The Hydro Scoop

by DeAnn Rhea

If you are like me, when I want to grasp more about a certain subject matter, it helps me to learn if I share the knowledge with someone else. We are in the Hydroelectric Power Industry; therefore, it is important that knowing “what we do” never becomes a matter of routine.



There are new employees at any organization who may not understand the “ins and outs” of our business. This article is mostly for those who are still learning “what we do.” Let’s start with basics:

**What is a Dam?** - A natural or man-made structure built to divert and/or direct water, i.e. rivers and streams. Pretty easy. Most dams are built to control river flow, for water supply to cities and towns, improve navigation, irrigation, regulate flooding, recreation, and to produce hydroelectric power (aka authorized uses).

Once a dam is built, an artificial man-made lake or reservoir is created behind it. On the dam wall below water level is an opening that allows water to flow through the dam itself via gravity (aka water intake into the penstock/conduit/sluiice).

At the end of the penstock there is a turbine propeller which is turned by the moving water (fuel). Attached to the turbine(s) is a shaft that extends up to the powerhouse. The shaft connects to a generator which produces the power. Power lines are connected to the generator to carry electricity for use in our everyday lives. The water turns the turbine(s) as it flows past, then continues into the river beyond the dam, and merrily rolls along downstream.

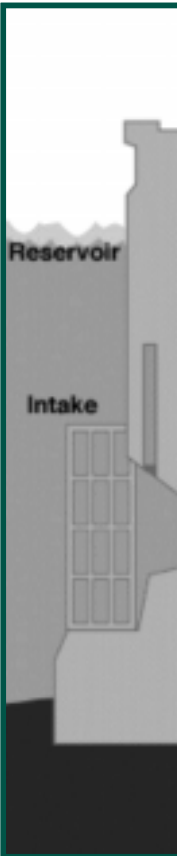
At most Corps projects, the lake/reservoir is divided in depth sections known as storage spaces/pools. These storage spaces are reserved for different authorized uses which are approved by the U.S. Congress for each dam. Most all hydro projects have multi-purpose authorized uses. The bottom level is Inactive Storage, then Conservation Storage (includes hydropower), then Flood Control Storage, Safety Storage, and finally, Freeboard. The top of the Conservation Storage is typically considered to be the “normal” lake level.

The Flood Control Storage pool provides space for temporarily storing flood waters to protect downstream farms and communities. Some uses such as recreation may be authorized, but do not typically have a water storage space reserved for them. Thus the need for sharing water resources and working together to meet the needs of competing uses, which is becoming an ever-increasing challenge.

The type of dam built depends on a range of factors: height of water to be stored; shape and size of the valley at the proposed construction site; composition of the valley walls and floor; and availability, quality, and cost of construction materials and cost of labor and machinery. The ability of the dam to withstand the pressure of the reservoir/lake behind it depends on its weight and/or shape.

The dam also needs to be made of or contain material that prevents water flowing through it. The two common types of dams are embankment (rockfilled and earthfilled) and concrete dams. Concrete, bitumen, or clay are used to prevent water seeping through the dam.

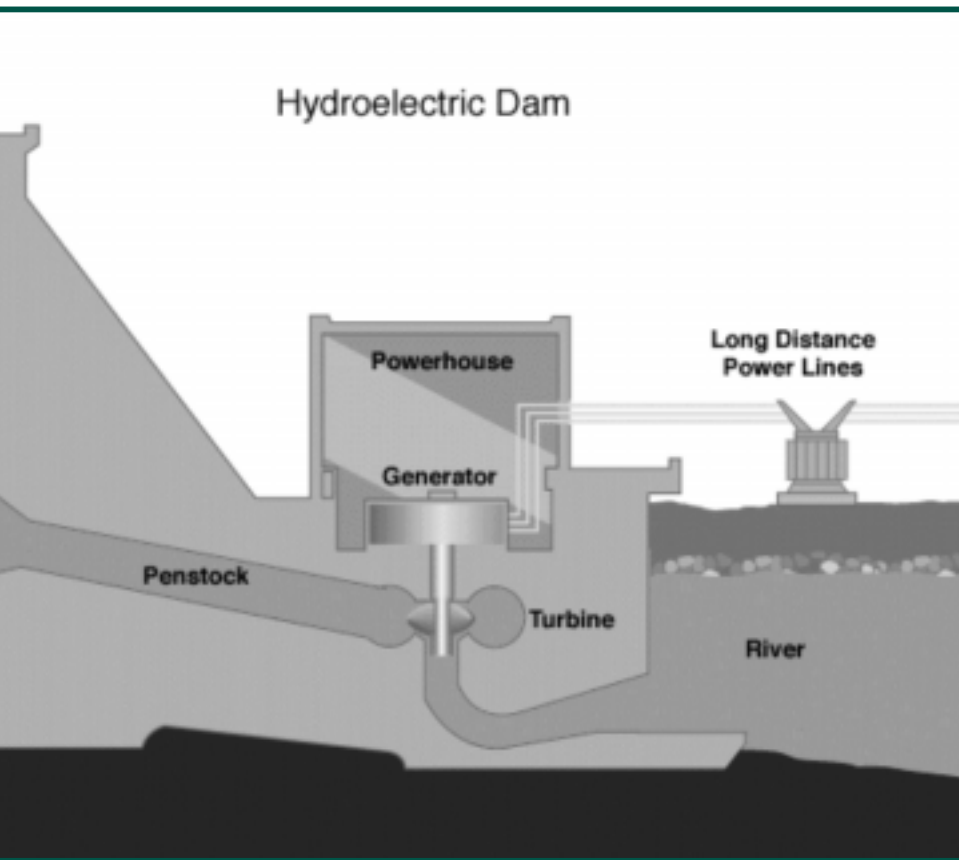
The highest dam in the United States is located



near Oroville, California. The Oroville Dam rises 754 feet and is more than a mile wide. This dam was built in 1968, 32 years after the Hoover Dam. Hoover Dam is on the Nevada-Arizona border and controls the Colorado River. It is 726 feet high and stores 21.125 million acre-feet of water in the 115 mile long Lake Mead Reservoir, behind the dam. The highest dam in the world? Nurek Dam on the

1882, two years after Thomas Edison's light bulb.

The first of many hydroelectric power plants at Niagara Falls was completed shortly thereafter and hydro plants continued to play a major role in the expansion of the electric industry. Modern-day hydroelectric plants generate anywhere from a few kilowatts (enough for a single residence) to thousands of megawatts (enough to supply a large city).



Hydropower is a renewable resource that has been an important part of the world's electricity supply and will continue to be so. Hydropower has environmental impacts which are very different from those of fossil fuel power plants. The actual effects of dams and reservoirs on various ecosystems are only now becoming understood.

The future of hydroelectric power will depend upon demand for electricity, as well as how societies balance environmental impacts of hydroelectric power with those of other sources of electricity.

For more than 50 years, Southwestern has supplied electricity to cities, towns, and rural areas in six states by providing power from the following hydroelectric dam projects: Arkansas: Beaver, Bull Shoals, Norfork, Greers Ferry, Ozark, Dardanelle, Blakely Mountain, DeGray, and Narrows; Missouri: Clarence Cannon, Harry S. Truman, Stockton, and Table Rock; Oklahoma: Keystone, Fort Gibson, Webbers Falls, Tenkiller Ferry, Eufaula, Robert S.

Kerr, Broken Bow, and Denison; and in Texas: Whitney, Sam Rayburn, and Robert D. Willis.

Vakhsh River in Tadjikistan, a country in central Asia. This dam is 984 feet tall (over 3 football fields)!

The first recorded use of water power was a clock, built around 250 BC. Since that time, we have used falling water to provide power for grain and saw mills, as well as a host of other applications. The first use of moving water to produce electricity was a waterwheel on the Fox River in Wisconsin in

Whew . . . more water under the bridge.

Until the next time . . . 💧



# Agency Leaders Share Information

by Sharon King



**DEIHL**

On August 9, 1999, the heads of Southwestern Power Administration (Southwestern) and the National Petroleum Technology Office (NPTO) gave current overviews of their respective agencies to an audience of employees from both organizations. The two agencies have been co-located since NPTO's move from Bartlesville in 1997.

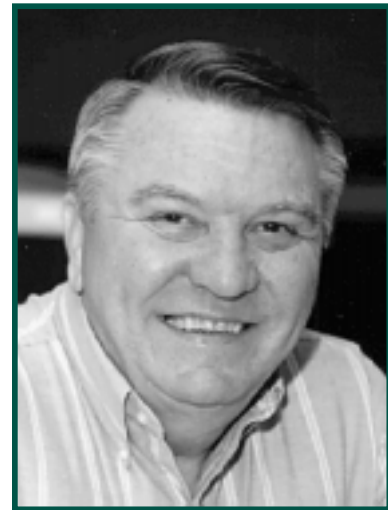
Southwestern Administrator Mike Deihl was the first presenter. He began by recalling the discussions over two years ago regarding NPTO moving from Bartlesville to Tulsa. By May of 1997 the move had become a reality and the two have been sharing resources and costs ever since. It has truly been a win-win situation, according to Deihl.

Following a showing of a video on Southwestern's history and mission, Deihl gave an overview of Southwestern's Y2K readiness. He noted the two mission-critical systems Southwestern has identified: SCADA and Oracle, both of which are Y2K ready.

NPTO Director Bill Lawson spoke next. He profiled United States' fossil fuel production and consumption. The US ranks number one in the world in both categories. A large portion of domestic fossil fuel usage is made possible by imports. Lawson gave a listing of NPTO goals and summarized the challenges facing the oil industry. ♦



**LAWSON**



## Inman to Retire

by Sharren Ripley

Bob Inman, Supervisory Power System Dispatcher at the Operations Center in Springfield, Missouri plans to retire on January 1, 2000. He shared his thoughts with the UPDATE during a recent telephone interview.

The highlight of my career while working for the Department of Energy would be the making of so many good friends. I have met lots of very nice people and made many lasting friendships. I worked at Watertown, South Dakota when the Department Of Energy was born. I transferred to Southwestern Power Administration in late February 1978.

My goal when first starting work for the Government was to secure a position at Springfield, Missouri in the Power System Dispatching. I will soon have completed 20 years at this location and am as thrilled to be here today as when I first arrived. ♦

# Educating Southwestern

by Sharon King

## September Training

The final monthly session in Southwestern's FY 1999 training schedule took place on September 13, 1999. The topic, presented by the Engineering and Maintenance Division, was Southwestern's 10-Year Construction Program.

Carlos Valencia started off the presentation with an organization chart and mission statement for Engineering, as well as its functions and how it

relates to its customers, both internal and external. He explained that several replacement programs have been in progress for a number of fiscal years, including replacement of: breakers, disconnect switches, surge arresters and transformers.

Doug Johnson stated that part of the 10-year program involves protective relay replacement and substation automation and integration.

Harry Mardirosian presented slides showing the relocation of transmission lines in Arkansas, the seismic hardening program, landscaping and structure refurbishing in Springfield.

Danny Johnson concluded the presentation by explaining that communication system services represent a big part of the engineering program. He elaborated on the types of communication methods, the backbone of which are digital microwave and fiber optics. System improvements are continually being made.

## Acquisition Career Development Program

by Sharon King

Seven Southwestern Procurement employees were honored recently for their accomplishments under the auspices of the Department of Energy's (DOE) Acquisition Career Development Program (ACD). This program, launched in 1997, is designed to meet the needs and expectations of the DOE's customers for a highly skilled procurement workforce.

It is also intended to provide the DOE procurement community with a common foundation of knowledge, tools, and capabilities necessary to successfully support the accomplishment of the Department's mission. It requires agency heads to establish education, training and career development programs for the acquisition workforce. DOE recognizes three levels of certification.

Procurement personnel honored at Southwestern include Paula Cheney-Neigum and Dot Danley (Level I), Pauletta Johnson and Linda Morris (Level II), and Gary Bridges, Scott Burns and Joe Malinovsky (Level III). ♦

## October Training

Rick Henley of Jonesboro Power and Light was the speaker at the first of Southwestern's FY 2000 monthly mandatory training sessions held on October 18, 1999. Rick gave an overview of the current volatile power purchasing market, with his presentation entitled "A Megawatt Is No Longer A Megawatt." He explained that Jonesboro had started its power purchasing program approximately four years ago.

At that time, power purchasing deals were set for six months at a time. Gradually, this evolved into monthly, weekly, daily and even hourly purchases. Rick demonstrated the wide swings in the purchase price of electricity in the summer of 1999. The price of a 16 hour block of 100 MW varied from \$37,232 to a high of \$2,629,088 between June 2 and July 30.

Rick stressed that everything that happens at Southwestern affects its customers. He expressed gratitude to the agency and its support of customers, many of whom have small staffs and are located in remote areas. Particularly noteworthy is the teamwork which Southwestern and Southwestern Power Resources Association (SPRA) utilize.

He cited the recently-signed Memorandum of Agreement (MOA) with the U.S. Army Corps of Engineers (Corps) as significant. The MOA will make possible some customer funding of Corps-specific maintenance activities. Rick summed it up by saying that "Customers count on Southwestern!" ♦

## Remembering Southwestern's Marge Lively by Larry Yadon

Long-time Southwestern employee Marjorie Lively died October 15 in Tulsa. Marge completed forty years of dedicated service before retiring.

During her career, which spanned the tenure of six administrators, Marge helped Southwestern grow from a small organization in cramped office space at the Tulsa bomber plant to the multi-state operation it is today.

She retired as a paralegal specialist, a position she had ably filled for many years in the Office of General Counsel, where she was known for her loyalty, dedication and attention to detail. Immediately prior to her legal career, she served as secretary to the Assistant Administrator for Power Marketing, working with Walt Bowers for many years.

A proud native Tulsan, Marge was an active alumnus of Central High School, class of 1940, and acquired a degree in Business Administration. Marge led a very active life, participating in a number of causes, including Camp Fire Girls and Boys and Project Get Together.



She also traveled extensively throughout the U.S. during her retirement, and was a member of the Single Friends social group.

Marge is survived by her children, Susan Lively McDonnell and David Lively, a granddaughter, Rhianna, and many nieces and nephews. 💧

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### Welcome to Southwestern

**Dick Sloan**, Equipment Operator  
Division of Springfield Transmission Maintenance

**Conley Jennings**, Lineman  
Division of Springfield Transmission Maintenance

**Wes Earnhart**, Lineman  
Division of Springfield Transmission Maintenance

**Carol Bailey**, Power System Scheduler  
Division of Scheduling and Operations, Springfield

**Bill Hopfensperger**, Power System Scheduler  
Division of Scheduling and Operations, Springfield

### SOUTHWESTERN POWER UPDATE

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